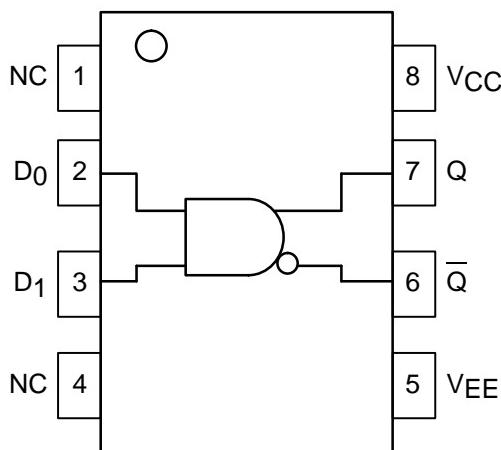


## 2-Input AND/NAND

The MC10EL/100EL04 is a 2-input AND/NAND gate. The device is functionally equivalent to the E104 device with higher performance capabilities. With propagation delays and output transition times significantly faster than the E104 the EL04 is ideally suited for those applications which require the ultimate in AC performance.

- 240ps Propagation Delay
- High Bandwidth Output Transitions
- 75kΩ Internal Input Pulldown Resistors
- >1000V ESD Protection

### LOGIC DIAGRAM AND PINOUT ASSIGNMENT



**MC10EL04  
MC100EL04**



**D SUFFIX**  
PLASTIC SOIC PACKAGE  
CASE 751-05

### PIN DESCRIPTION

PIN	FUNCTION
D0, D1 Q	Data Inputs Data Outputs

### DC CHARACTERISTICS ( $V_{EE} = V_{EE(\min)} \text{ to } V_{EE(\max)}$ ; $V_{CC} = GND$ )

Symbol	Characteristic	-40°C			0°C			25°C			85°C			Unit
		Min	Typ	Max										
$I_{EE}$	Power Supply Current 10EL 100EL		14 14	17 17		14 14	17 17		14 14	17 17		14 16	17 20	mA
$V_{EE}$	Power Supply Voltage 10EL 100EL	-4.94 -4.20	-5.2 -4.5	-5.5 -5.5	-4.94 -4.20	-5.2 -4.5	-5.5 -5.5	-4.75 -4.20	-5.2 -4.5	-5.5 -5.5	-4.75 -4.20	-5.2 -4.5	-5.5 -5.5	V
$I_{IH}$	Input HIGH Current D0 D1			250 150			250 150			250 150			250 150	μA

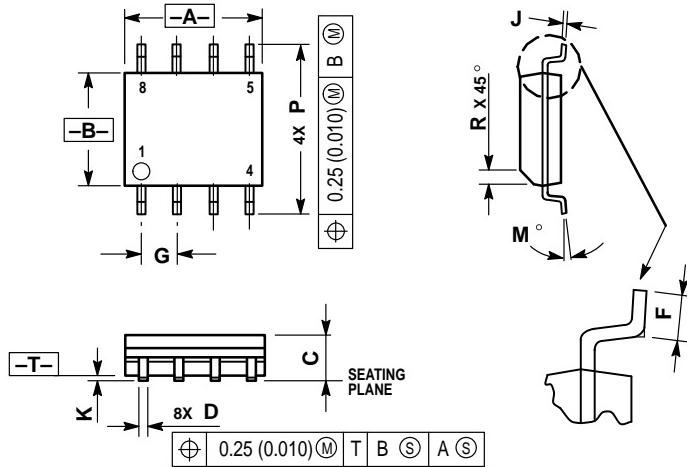
### AC CHARACTERISTICS ( $V_{EE} = V_{EE(\min)} \text{ to } V_{EE(\max)}$ ; $V_{CC} = GND$ )

Symbol	Characteristic	-40°C			0°C			25°C			85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
$t_{PLH}$ $t_{PHL}$	Propagation Delay to Output	70	235	410	120	235	360	130	240	370	155	265	395	ps
$t_r$ $t_f$	Output Rise/Fall Times Q (20% – 80%)	100	225	350	100	225	350	100	225	350	100	225	350	ps



## OUTLINE DIMENSIONS

**D SUFFIX**  
PLASTIC SOIC PACKAGE  
CASE 751-05  
ISSUE P



NOTES:

1. DIMENSIONS A AND B ARE DATUMS AND T IS A DATUM SURFACE.
2. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
3. DIMENSIONS ARE IN MILLIMETER.
4. DIMENSION A AND B DO NOT INCLUDE MOLD PROTRUSION.
5. MAXIMUM MOLD PROTRUSION 0.15 PER SIDE.
6. DIMENSION D DOES NOT INCLUDE MOLD PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.127 TOTAL IN EXCESS OF THE D DIMENSION AT MAXIMUM MATERIAL CONDITION.

	MILLIMETERS	
DIM	MIN	MAX
A	4.80	5.00
B	3.80	4.00
C	1.35	1.75
D	0.35	0.49
F	0.40	1.25
G	1.27 BSC	
J	0.18	0.25
K	0.10	0.25
M	0 °	7 °
P	5.80	6.20
R	0.25	0.50

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MC10EL04/D



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